









Date: Thursday, 11/01/2007 10:40:40 AM
 User: Linda Lacelle

Process Sheet



Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: TUBE ASSEMBLY
Job Number	: 29935		
Estimate Number	: 11926		
P.O. Number	: <i>N/A</i>	Part Number	: D2003109
This Issue	: 11/01/2007 S.O. No. : <i>N/A</i>	Drawing Number	: UNDER REVIEW
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 13/12/2006 Type : SMALL /MED FAB	Drawing Revision	: B
Previous Run	:	Material	: <i>N/A</i>
Written By	: <i>[Signature]</i>	Due Date	: 10/01/2007 Qty: 5 Um: Each
Checked & Approved By	:		
Comment	: Est. C 05.04.13 Reformat KJ/JLM		

Seq. #:	Machine Or Operation:	Description :								
1.0	M6061T6T0375W058	6061-T6 Tube .375 x.058W								
  <p>Comment: Qty.: 0.7875 f(s)/Unit Total : 3.9375 f(s) 6061-T6 Tube .375 x.058W Cut tube Ø 0.500" x 0.035" wall as per template D2003-109 (8.125" long) Material: AISI 304 SS tubing (M304TR0.500x0.035) Batch: _____</p> <p><i>See attached.</i></p>										
2.0	M6061T6T0500W035	6061-T6 Tube .500 x.035W								
  <p>Comment: Qty.: 0.7875 f(s)/Unit Total : 3.9375 f(s) 6061-T6 Tube .500 x.035W</p> <p><i>M4692 MF. 07-01-11</i></p>										
3.0	M26506	Firesleeve-crkl .375IDia								
  <p>Comment: Qty.: 0.7219 f(s)/Unit Total : 3.6094 f(s) Cut: 8.25" long as per Dwg D2003 and heat shrink Material: M2650-6 Heat sleeve Batch: <i>M17521</i></p> <p><i>MF. 07-01-16</i></p>										
4.0	D2182	Heat Shrink								
  <p>Comment: Qty.: 0.3063 f(s)/Unit Total : 1.5314 f(s) Heat Shrink Cut:</p> <table border="1"> <thead> <tr> <th>Qty</th> <th>Part Number</th> <th>Description</th> <th>Batch</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>D2182-035</td> <td>Heat Shrink</td> <td><i>B 21864</i></td> </tr> </tbody> </table> <p>Cut 8.25" long Heat sleeve as per Dwg D2003 & heat shrink</p> <p><i>B 24615 MF. 07-01-16</i></p>			Qty	Part Number	Description	Batch	1	D2182-035	Heat Shrink	<i>B 21864</i>
Qty	Part Number	Description	Batch							
1	D2182-035	Heat Shrink	<i>B 21864</i>							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
07-01-16	4.						

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07-01-16	4.	Heat Shrink. on 2 tubes too much ^{heat} so they came off. Had to take a larger band x2 in order to fit.		Placed Replaced with 2 larger bands. B 246/5	M.F. 07-01-16	 07/01/16		 07/01/16

NOTE: Date & initial all entries

Date: Thursday, 11/01/2007 10:40:41 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 29935

Part Number: D2003109

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Form tube as per template D2003-109

MF. 07-01-12. (5)

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

7.0

MS208198D

Sleeve



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)
Sleeve
Pick:

Qty	Part Number	Description	Batch
2	MS20819-8D	Sleeve	M19099

MF. 07-01-16

8.0

AN8188D

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)
Nut
Pick:

Qty	Part Number	Description	Batch
2	AN818-8D	Nut	M101840

MF. 07-01-16

9.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble as per Dwg D2003
Install Red decal and heat shrink as per PPP D2003-109

MF. 07-01-16
MF. 07-01-16 (5)

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

MF. 07/01/16 (5)

Date: Thursday, 11/01/2007 10:40:41 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 29935

Part Number: D2003109

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 5114

Bo 07/01/16 (5) 27/01/16

12.0

QC21

FINAL INSPECTION W/O RELEASE



Comment: FINAL INSPECTION W/O RELEASE

Job Completion



C Lo 7/01/17

Date: Wednesday, 12/13/2006 2:47:54 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : TUBE ASSEMBLY
Job Number : 29935	
Estimate Number : 11926	
P.O. Number :	Part Number : D2003109
This Issue : 12/13/2006 S.O. No. :	Drawing Number : UNDER REVIEW — CB 06.12.13
Prsht Rev. : NC	Project Number : N/A SEE NOTE ON DWG
First Issue : // Type : SMALL / MED FAB	Drawing Revision : B
Previous Run :	Material :
Written By : <u> </u>	Due Date : 1/10/2007 Qty: 5 Um: Each
Checked & Approved By : <u> </u>	
Comment : Est. C 05.04.13 Reformat KJ/JLM	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M6061T6T0375W058	6061-T6 Tube .375 x.058W
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Comment: Qty.: 0.7875 f(s)/Unit Total : 3.9375 f(s)
 6061-T6 Tube .375 x.058W .500x0.35W
 Cut tube \varnothing 0.500" x 0.035" wall as per template D2003-109 (8.125" long)
 Material: AISI 304 SS tubing
 (M304TR0.500x0.035)
 Batch: M18720 m4692 MF 07-01-11

2.0	M26506	Firesleeve-crkl .375IDia
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Comment: Qty.: 0.7219 f(s)/Unit Total : 3.6094 f(s)
 Cut: 8.25" long as per Dwg D2003 and heat shrink
 Material: M2650-6 Heat sleeve
 Batch: _____

3.0	D2182	Heat Shrink
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Comment: Qty.: 0.3063 f(s)/Unit Total : 1.5314 f(s)
 Heat Shrink
 Cut:

Qty	Part Number	Description	Batch
1	D2182-035	Heat Shrink	_____

Cut 8.25" long Heat sleeve as per Dwg D2003 & heat shrink

4.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1
 Form tube as per template D2003-109

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>FA</i>	DRAWN BY <i>GP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>JE</i>	APPROVED <i>GP</i>	DRAWING NO. D2003	REV. B SHEET 1 OF 2
DATE 99.06.08		TITLE 206 CABIN HEATER TUBE ASSEMBLIES NTS	
A	90.04.09	NEW ISSUE	
B	99.06.08	UPDATE PER TEMPLATES; ADD P/N'S; 0.025 TUBING NOW 0.035 (TSR1049)	

RELEASED
49.06.03 KE

NOTE: FLAT LENGTHS MAYBE
INCORRECT. BEND TO BENT
TOOL. REPORT TO ENGINEERING

UNDER REVIEW

06.08.21 CB

some flat 06.12.13
lengths wrong

SHOP COPY
RETURN TO
ENGINEERING

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 29935

P/N	TEMPLATE	HEATSLEEVE LENGTH ¹	CUT LENGTH OF TUBE ²	MS20819-8J SLEEVE	AN818-8J NUT	MS20819-8D SLEEVE	AN818-8D NUT	MS20819-6D SLEEVE	AN818-6D NUT	DESC.	MATERIAL ^{4/6/7}	VENDOR OR SPEC
D2003-001	T2003-001	5.2	6.00					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-003	T2003-003	7.3	8.12					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-005	T2003-005	9.8	10.62					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-007	T2003-007	20.0	19.63					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-009	T2003-009	12.38	12.44					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-011	T2003-011	33.31	32.38					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-013	T2003-013	12.7	13.54					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-015	T2003-015	17.2	18.00					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-017	T2003-017	17.0	16.25					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-019	T2003-019	9.8	10.62			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-700/6
D2003-021	T2003-021	N/A	2.25			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-700/6
D2003-023	T2003-023	4.5	5.33			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-700/6
D2003-025	T2003-025	9.8	10.60			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-700/6
D2003-027	T2003-027	7.25	7.38			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-700/6
D2003-029	T2003-029	17.2	18.00			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-700/6
D2003-031	T2003-031	14.6	15.38	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-033	T2003-033	29.75	29.62	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-035	T2003-035	24.7	27.00	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-037	T2003-037	24.81	23.38	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-039	T2003-039	34.0	34.00	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-041	T2003-041	6.0	5.88	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-043	T2003-043	11.7	10.75	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-045	T2003-045	3.50	2.44	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-047	T2003-047	5.56	5.56	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-049	T2003-049	33.2	34.00	2	2					TUBE ASS'Y	CRES 0.500 OD x 0.035 W	AISI 304
D2003-077	T2003-077	N/A	6.25					1	1	JET	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-101	T2003-101	13.25	13.13					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-600/6
D2003-103	T2003-103	12.38	12.00					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-600/6
D2003-105	T2003-105	10.75	10.60					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-600/6
D2003-107	T2003-107	12.75	12.25					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-600/6
D2003-109	T2003-109	8.25	8.125			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-600/6
D2003-111	T2003-111	4.75	4.625			2	2			TUBE ASS'Y	6061-T6 0.500 OD x 0.035 W	VWV-T-600/6
D2003-116	T2003-116	4.0								HEATSLEEVE	M2650-20 CRINKLE-SOFT	STRATOFLEX
D2003-120	T2003-120	4.0								HEATSLEEVE	M2650-16 CRINKLE-SOFT	STRATOFLEX
D2003-14	T2003-14	4.0								HEATSLEEVE	M2650-14 CRINKLE-SOFT	STRATOFLEX
D2003-16	T2003-16	4.0								HEATSLEEVE	M2650-16 CRINKLE-SOFT	STRATOFLEX
D2003-205	T2003-205	9.75	9.60					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6
D2003-207	T2003-207	3.75	3.75					2	2	TUBE ASS'Y	6061-T6 0.375 OD x 0.035 W	VWV-T-700/6



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2003	REV. B SHEET 2 OF 2
DATE 99.06.08		TITLE 206 CABIN HEATER TUBE ASSEMBLIES NTS	

RELEASED
99.06.08 KE

UNDER REVIEW

06.08.21 CB

Some flat lengths
not wrong

CB
06.12.13

Notes:

- (1) USE STRATOFLEX M2650-6 CRINKLE-SOFT HEATSLEEVE.
- (2) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATES.
- (3) TUBES TO BE FLARED 30° TO MATE WITH FITTINGS MADE TO MS33514.
- (4) ENSURE SEAMLESS TUBING IS USED.
- (5) INSTALL HEATSLEEVE OVER ALL TUBES WITH A DESIGNATED LENGTH OF HEATSLEEVE PER THE PARTS LIST.
- (6) 5052 (WW-T-700/4) TUBING MAY BE SUBSTITUTED WHEN 6061 TUBING IS NOT AVAILABLE.
- (7) 0.049 WALL THICKNESS CRES TUBING MAY BE SUBSTITUTED WHEN 0.035 IS NOT AVAILABLE.
- (8) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

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WORK ORDER
NO. 29935

